DOE O 151.1C Update

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Joint EFCOG/DOE Chemical Safety Workshop
March 13, 2007

DOE O 151.1C

OUTLINE

- DOE O 151.1C Update
- Objective of the Technical Planning Basis
- Why screen materials
- What about ….

DOE O 151.1C Update

- Order has been in effect for over a year
  - Full implementation by 11/2/06, or
  - Implementation schedule submitted to the Cognizant Field Element with the Emergency Readiness Assurance Plans (ERAPs) that were due on 10/1/06

DOE O 151.1C Update

- Guidance documents (DOE G 151.1-1 series)
  - Informal coordination with emergency management people in Dec 2005
  - 5 Volumes went into formal coordination in Nov/Dec 2006
    - Vol. I – Introduction
    - Vol. II – Technical Planning Basis
    - Vol. III – Programmatic Elements
    - Vol. IV – Response Elements
    - Vol. V – Biosafety Facilities

DOE O 151.1C Update

- Guidance documents (DOE G 151.1-1 series) (Continued)
  - Coordination/comment resolution process used for Guides
  - Comment dates for all Volumes has passed
    - Reasonable numbers of comments on all Volumes
    - Comments on the Guide for biosafety facilities (Vol. V) will have the most significant impact
  - Comment resolutions
    - Complete for Volumes I and II
    - Continuing to develop resolutions for Volumes III-V

DOE O 151.1C Update

- Order Interpretations
  - DOE O 226.1 requires a formal process for seeking/publishing interpretations of any Directive requirement
  - DOE O 151.1C Interpretations published on the web at:

http://www.orau.gov/emi/DOEOrder151_1C_Files/view_DOEOrder151.html

  - Point of contact for interpretations:

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Objective of the Technical Planning Basis

Identify the hazards and scenarios

that may produce

Operational Emergencies

and for which hazard-specific planning is needed to effectively respond to reduce the impacts on workers, the public, or the environment

Why Screen

The ***SCREENING PROCESS*** identifies for further analysis hazardous material inventories that may produce ***Operational Emergencies***

Why Screen

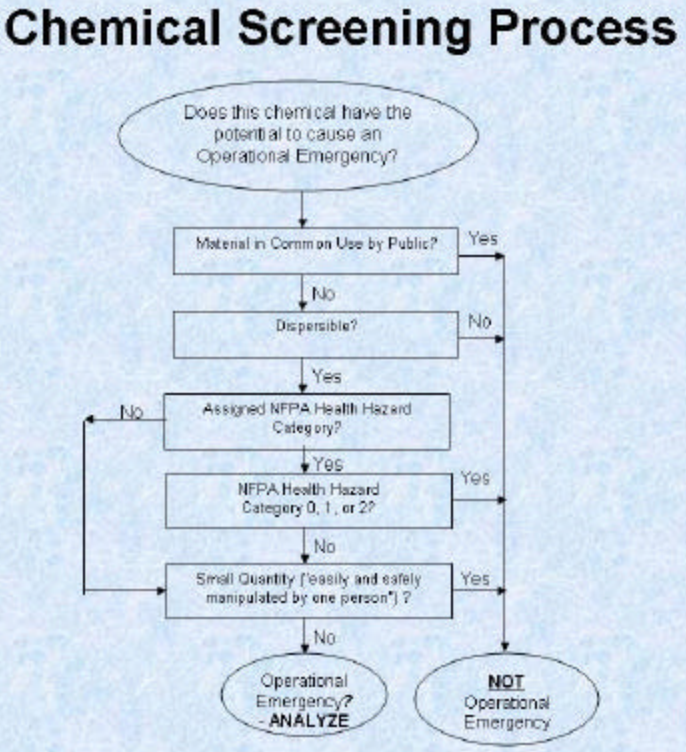
- Reduce the number of hazardous materials quantitatively analyzed for emergency planning purposes
  - Not intended to avoid analyses of hazardous materials that have the potential to harm workers or the public
  - Focus resources on analyzing materials that, because of their quantity, toxicity and dispersibility, have the potential to harm people who are outside the immediate workplace where the materials are used or stored

Why Screen

- What happens to the materials that are screened out?
  - Screening out a material does not mean that it is not hazardous
  - There has to be a line between worker safety programs and the emergency management program
  - Materials screened out are unlikely to result in an event where emergency management is required
  - However, there are still worker safety issues to be addressed

What About ….

- Does the material need to meet all the screening criteria to be screened out?
  - Meeting any one of the screening criteria allows the material to be screened out
  - BUT…



What About ….

- Does the material need to meet all the screening criteria to be screened out?
  - Look at how the material is used before it is screened out
    - EXAMPLE: A chemical with a low vapor pressure (<1mm Hg [mercury]) can be screened out. However, if the chemical is used in a high pressure system, a system leak may cause a spray and create the airborne hazard

What About ….

- Screening is based on size of individual container, and there may be multiple containers present
  - Small numbers of containers in ready storage within or very near an end-user facility may be screened out
  - Large number of containers (5-10 times the lab scale threshold) in warehouses or other storage locations should be examined closely
    - If plausible scenarios could release multiple containers, retain materials for analysis
    - Exclude extreme malevolent act and catastrophic release scenarios

What About ….

- Using other Health Hazard Rating Systems besides National Fire Protection Association (NFPA) 704
  - There are other systems out there – Hazardous Materials Identification System (HMIS), Manufacturer-specific, Global Harmonization Standard
  - Different systems use different criteria for each level
  - Equating levels in other systems and NFPA 704 is not the recommended approach
  - NFPA 704 was chosen because the criteria were openly published and they apply to emergency situations (i.e., acute vs. chronic exposures)
  - Facilities/sites can find exposure information underlying a level in another system and apply NFPA 704 criteria
  - We believe NFPA 704 will be updated to the Global Harmonization Standard at a future date

NFPA 704 - *Standard System for the Identification of the Hazards of Materials for Emergency Response*

Temporary Emergency Exposure Limit (TEELs)

- Rev. 21 is available at –

http://www.hss.energy.gov/HealthSafety/WSHP/chem_safety/teel.html

- Contains about 2950 chemicals with Acute Exposure Guideline Levels (AEGLs), Emergency Response Planning Guidelines (ERPGs) or TEELs
- Rev. 22 will add about 450 more chemicals

TEELs

- Chemicals added are based, in part, on requests
- TEEL request forms can be found at

  http://orise.orau.gov/emi/scapa/teels.htm
- Future requests for TEELs should be chemicals that are used in sufficient quantities that could require analysis in an Emergency Planning Hazards Assessment (EPHA) and could result in an Operational Emergency

Chemical Inventory Systems

- EFCOG Chemical Safety and Lifecycle Management Group baselining inventory practices
- Office of Emergency Operations undertook a related, limited evaluation of the linkages between chemical inventory systems and emergency management planning efforts

Chemical Inventory Systems

- Why did the Office of Emergency Operations undertake the evaluation?
  - Office of Independent Oversight findings
    - Improve accuracy of inventory information and update frequency to support quantitative hazards assessments
    - Improve content of systems and/or integration with other databases (such as Material Safety Data Sheet (MSDS) databases) used for emergency management
    - Better communicate new hazardous material information to emergency management

Chemical Inventory Systems

- Limited evaluation
  - Telephonic interviews with 10 sites
  - Visits to 5 sites
  - Small, medium and large program
  - Variety of missions and programs
- Conducted October-December 2006

Chemical Inventory Systems

- Final report is being drafted
  - Identifies recommendations and best practices
- Presentation on the final report on agenda for
  - EFCOG Chemical Safety and Lifecycle Management Spring Meeting in Atlanta
  - Emergency Management Special Interest Group Meeting in San Antonio

Chemical Inventory Systems

- Other interesting information
  - Since the evaluation started, the DOE IG has begun looking at this area
  - Significant inventory discrepancies were identified at one site

Questions

Contact Information

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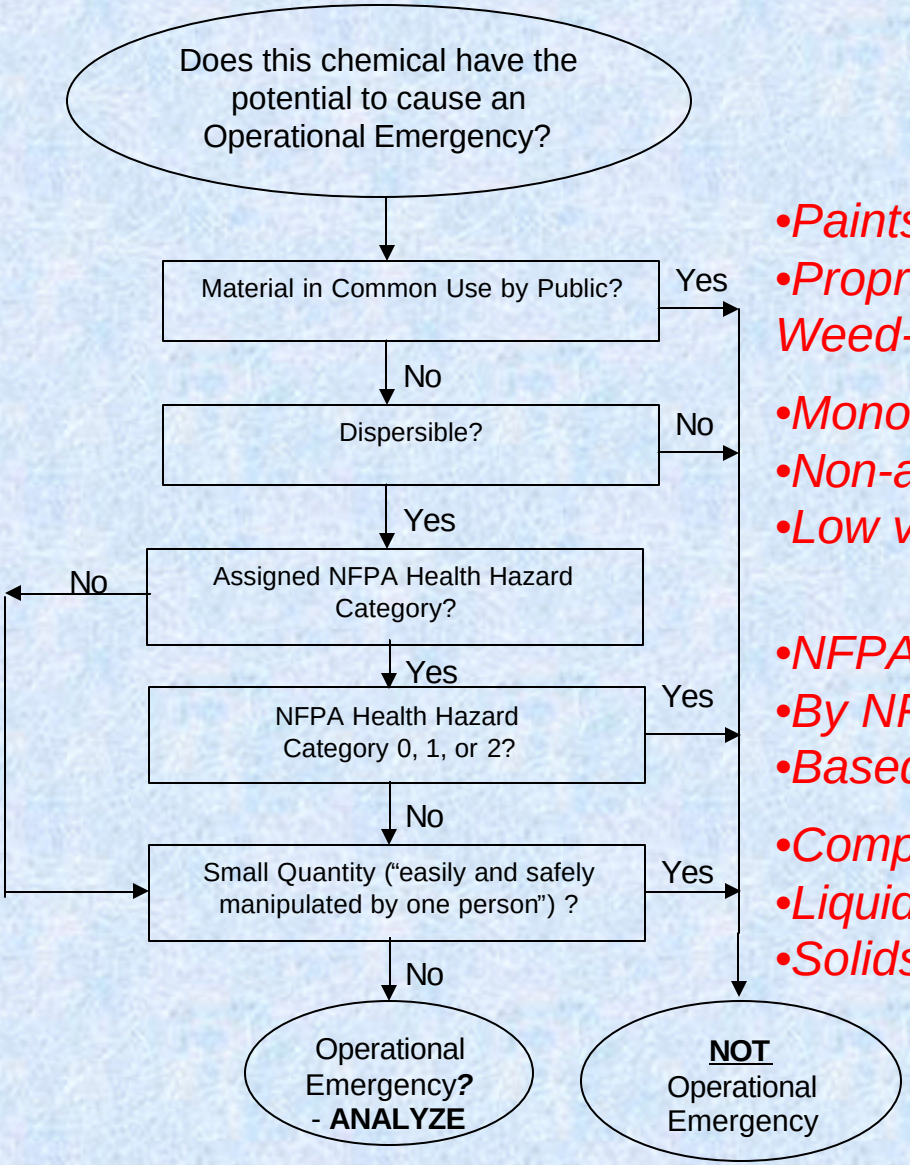
Back-up

Chemical Screening Process



- *Paints, lubricants, cleaners*
- *Proprietary goods (Windex, WD-40, Weed-B-Gone)*

- *Monolithic solids*
- *Non-aerosol size particles (>10 μ)*
- *Low vapor pressure (<1 mmHg)*

- *NFPA 704 Health Hazard Rating*
- *By NFPA or locally-assigned*
- *Based on acute health effects*

- *Compressed gas – 10 lbs*
- *Liquids – 5 gal.*
- *Solids – 40 lbs*

Can be locally determined